
Upgrade Intersections

Intersections invariably involve interaction of crossing/turning vehicles. These movements are controlled by stop signs or signals that bring traffic to a halt. Conflicts can be reduced by removing turning vehicles from the through travel lanes. This means adding left-turn and right-turn lanes on the near sides of intersections and return tapers on the far sides to allow vehicles turning from side roads to enter the traffic stream more smoothly.

Oakland County has aggressively pursued the implementation of a FAST-TRAC (Faster And Safer Travel through Traffic Routing and Advanced Controls) system. It includes optical sensors that count traffic at each approach of the intersection through each signal cycle. The system reallocates green time to the approaches that have the highest counts. This effectively adjusts the green time available to match the travel demand from the heaviest approach in a dynamic way. The result is improved travel flow and a signal that is more responsive to the varieties of travel demand over time

Roundabouts

Roundabouts are an innovative solution in America that allows the continuous flow/merging of traffic at intersecting roads. Three key features of modern roundabouts that set them apart from earlier traffic circle configurations are: 1) approaching traffic enters the roundabout at an angle; 2) entries to the roundabout flare to multiple lanes; and, 3) traffic on the approaches always yields to traffic within the roundabout. Roundabouts have had success in Europe in reducing the severity of accidents as well as certain accident types, while maintaining a steady traffic flow. Under the appropriate circumstances, where right-of-way is available at an intersection, roundabouts may prove to be a potential solution in the M-15 corridor.

Incident Management

Incident management means increasing response rates to incidents (crashes and other vehicles that are disabled) and moving vehicles out of the traffic stream as quickly as possible. The primary focus of incident management is in freeway situations, but the principle applies to other roadways. Incident management will be carried through the environmental document. And, while it does not increase capacity from the standpoint of base infrastructure, it is a means of making the best use of the capacity that exists.

Access Management

In recent years, the Michigan Department of Transportation has developed guidance with respect to access management and driveway control. The goal is to reduce friction on the mainline roadway and minimize conflicts that lead to accidents and delay. Access management involves observing recommended driveway spacings based on roadway speeds; encouraging shared driveways by adjacent owners; providing access from side streets; providing, in some cases, frontage roads or service drives; and, seeking other innovative ways to minimize direct conflict with through traffic. Access management will be an important component of any improvements made in the M-15 corridor.

Telecommuting/Demand Management

It is evident that under the right circumstances, individuals are no longer commuting to work on a daily basis, but are instead working at home via electronic means. Interestingly, analysis of this trend finds that travel reduction is not as great as one might expect. In fact, the need for individuals to be in the workplace on a regular basis seems to counterbalance the advantages gained by telecommuting such that travel, overall, is not reduced significantly. This pattern could change in the future but at the present time, telecommuting is not seen as a panacea in terms of the need for additional roadway capacity.

Demand management is a partner to telecommuting in the sense that it is an attempt to reduce travel. Demand management generally takes the form of actions by large employers, which may set up ridesharing programs, provide four-day workweeks, or allow travel during off-peak times to reduce the peaking characteristics associated with work travel.

In the end, neither telecommuting nor demand management is expected to influence travel forecast in the M-15 corridor in such a way that the laneage needs evidenced by travel projections are reduced.

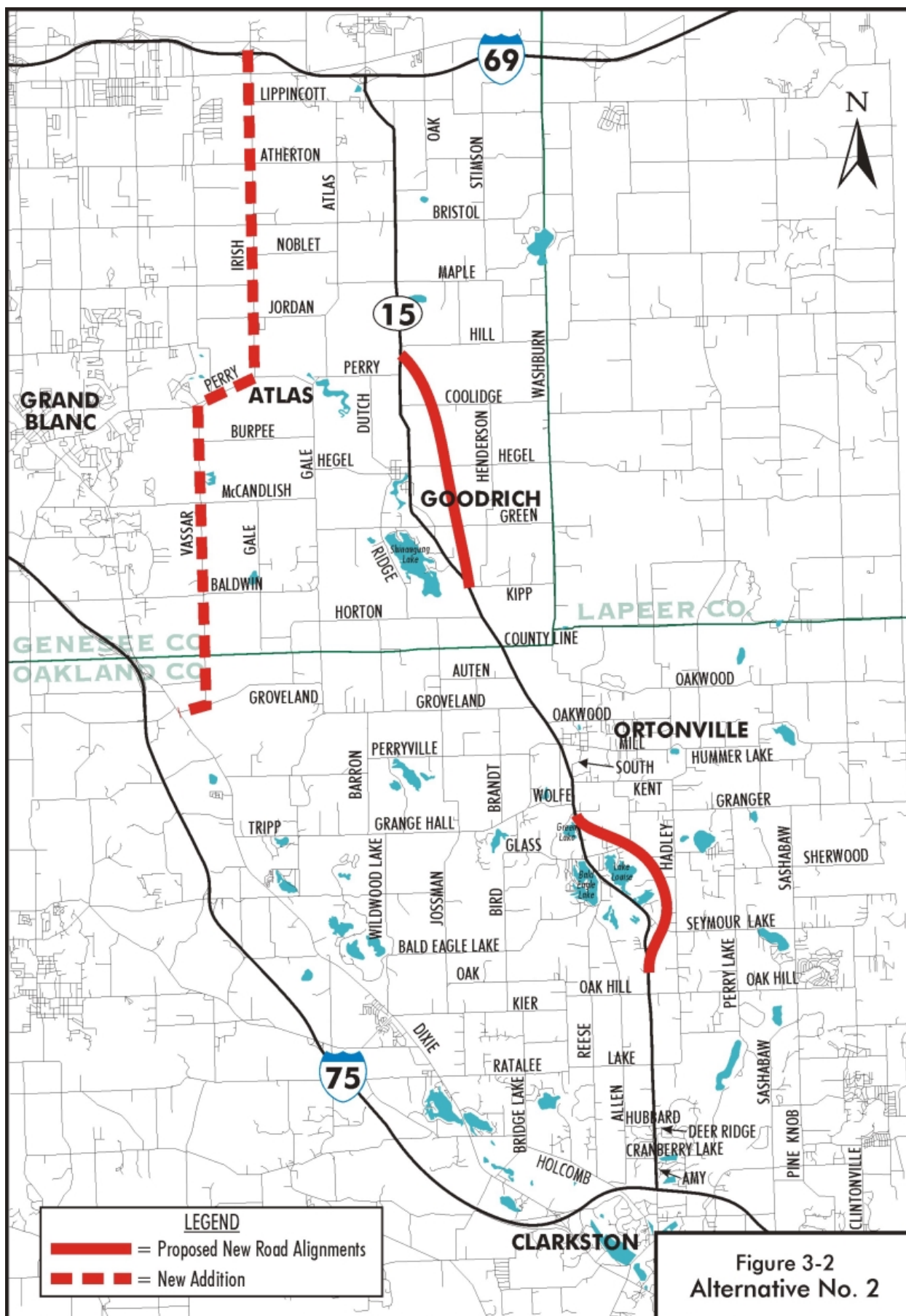
3.4 New Alignments - Alternative No. 2

Several roads on new alignment will be considered to provide relief to M-15 and to offer better truck movement in the corridor. One option would use Irish Road to connect I-69 to Dixie Highway just south of the Oakland/Genesee county line (Figure 3-2). Others options are bypasses: one on the east side of Goodrich and the second on the east side of Huff Lake and Lake Louise.

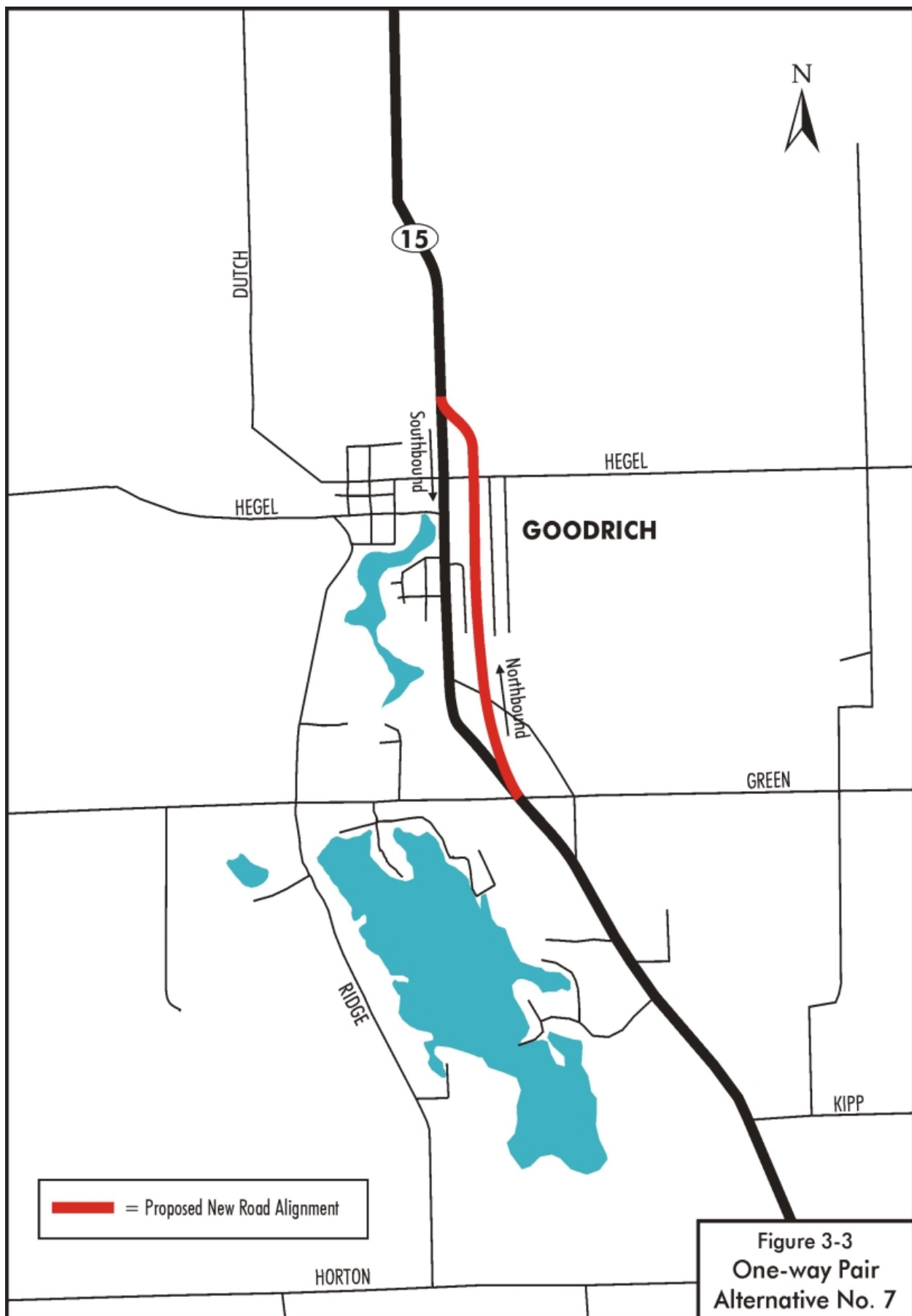
Finally, consideration is being given to formation of a one-way pair in the Village of Goodrich (Figure 3-3). The existing roadway would serve as the southbound element of the one-way pair. The northbound section of the pair would take off from the existing curve in M-15 south of Goodrich (at the point where M-15 transitions from a northwest-southeast orientation to a north-south orientation). The northbound road would proceed across Kearsley Creek, then north to the east of Putnam and to the west of the new subdivision whose principal roads are Rose Lane and Fox Hollow. It would cross East Hegel and transition back to M-15 south of the Bank One property. The new roadway would pass through a now vacant area that has been proposed for a senior center. Advantages to such an approach may be fewer takings of structures along M-15 and reinstitution of on-street parking on southbound M-15 through the commercial district of Goodrich.

3.5 M-15 Reconstruction - Alternative No. 3

A number of roadway types may have application to the reconstruction of M-15. Some of the roadway types have been examined and found not to be feasible while others are offered as viable Illustrative Alternatives. Each of these is discussed below.



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Five-lane Roadway

A five-lane roadway can be constructed in either an urban or rural cross-section type. The difference is drainage and sometimes amenities in the form of sidewalks or walkways/bicycle paths. The five-lane urban section is compact, with curb-and-gutter drainage, and requires a minimum of right-of-way. Where more right-of-way is available, the rural section allows for side slope drainage to a ditch. In either case, the outside lane can be widened to allow for bicycle travel concurrent with vehicular travel on the roadway. The five-lane section would be augmented at intersections by exclusive left-turn and right-turn lanes. In addition, on the far sides of intersections, there may be a taper lane that allows right-turning vehicles from the cross road to return smoothly to the two-lane traffic flow. Travel demand projections at this point do not indicate any locations where more than five lanes would be required.

Narrow Boulevard

A narrow boulevard provides a more aesthetic treatment than an “all concrete” five-lane road for managing two through lanes of travel in each direction. The median acts as a separator between the two travel directions, improving safety. Narrow boulevards are less favored in terms of geometrics because the narrower median offers a greater challenge for providing U-turn movements. The U-turns are necessitated because many cross streets and driveways will not have median openings. For many adjacent land uses, there will be only “right turns in” and “right turns out” of the property. Left turns would be accomplished by a right turn from the cross street/driveway into traffic flow and then a subsequent U-turn. The U-turn can only occur where the median is of adequate width. In the M-15 corridor a narrow boulevard is an option, with adequate U-turn movements provided for at selected locations. This alternative will likely have fewer impacts because it is limited in its right-of-way requirements.

Wide Boulevard

A wide boulevard provides a full-width median to allow storage of large vehicles and U-turn capabilities along the entire road.

4. *Project Status*

This section covers the project schedule, early coordination, and reports and studies to be conducted,

4.1 Schedule

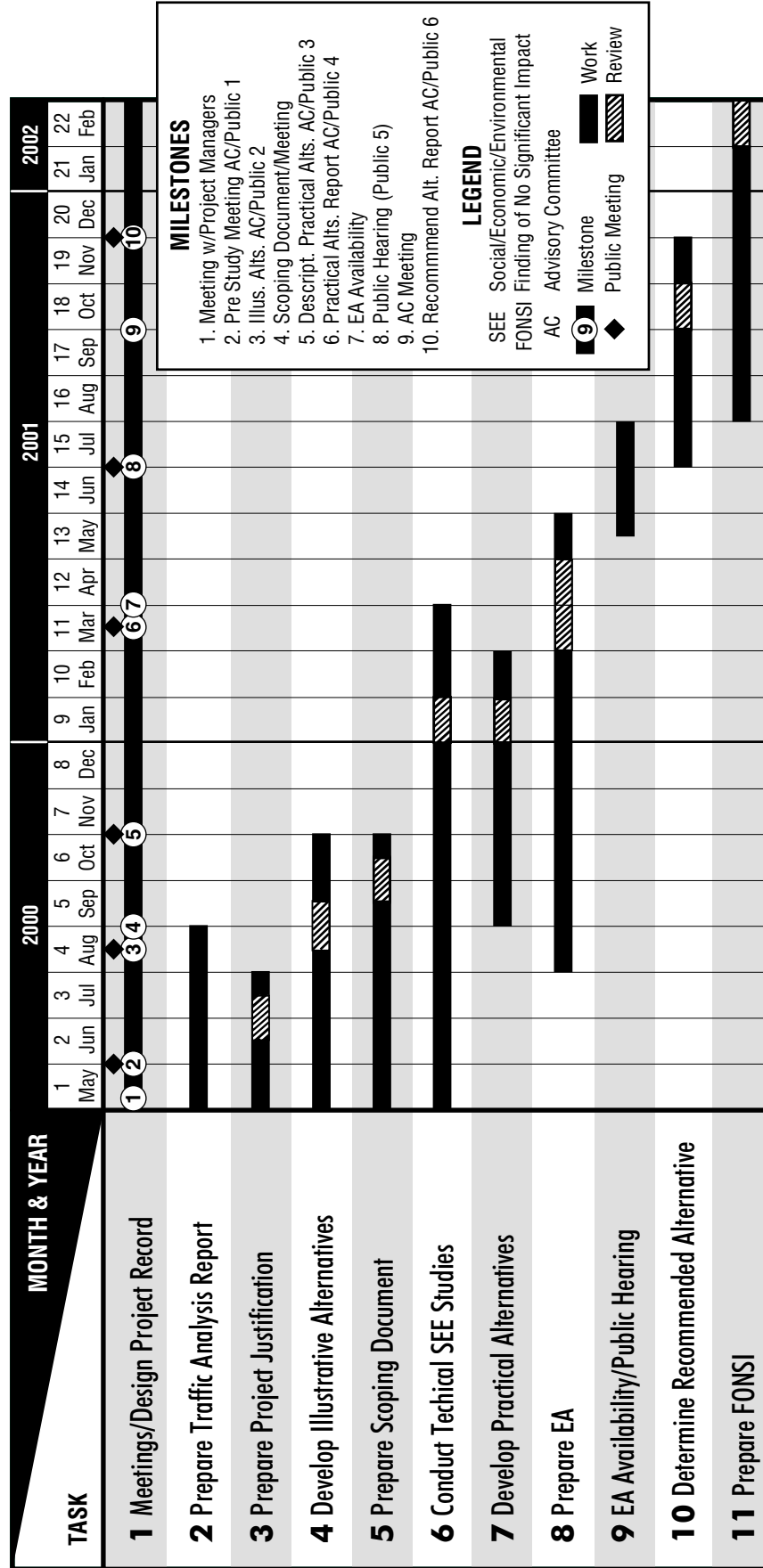
The project is scheduled for completion by early 2002 (Figure 4-1). Much of the technical analysis will come in the first half of the study with refinements and the review/approval process extending over almost another year. The review process is lengthy and exhaustive to ensure that the public has been heard and that all environmental impacts have been properly identified and addressed.

The first row in the schedule indicates ten milestones in the course of the project, including numerous meetings with the public. The first round of meetings was held in June 2000. It focused on introducing the MDOT/Consultant Project Team; defining the project schedule; and, soliciting improvement concepts as well as key issues of an environmental, social, and/or transportation nature. The second round of public meetings was held in August. Preliminary illustrative alternatives were presented for public review.

Technical studies will allow a screening/evaluation of the illustrative alternatives for public presentation by the end of October. This scoping document present preliminary information for agency review. Agency guidance will be instrumental in determining the final alternative consistent with legal and regulatory guidance.

Development of practical alternatives and the accompanying environmental analysis will be summarized in a technical memorandum to be completed by March/April 2001. The analysis will lead to preparation of an Environmental Assessment. It will be the subject of comment at a Public Hearing scheduled for June 2001. Based on input from the public and ongoing dialogue with other stakeholders and agencies, further refinements will be made to the recommended alternative. A Recommended Alternative Report will be prepared after the Public Hearing. If no significant environmental impacts have been found, a Finding of No Significant Impact (FONSI) will be sought from FHWA. If the interchanges at I-75 or I-69 are modified, Interchange Justification studies may be necessary. They document that any changes to the interstate highways are in the best interest of the public and that the changes do not compromise the functioning of the interstates as through travel routes. These studies require independent approval of FHWA.

Figure 4-1
M-15 Environmental Assessment Schedule



Scoping meetings are scheduled for September 20, 2000. The first meeting will be held in Lansing, Michigan and will focus on soliciting input from federal and state agencies that might have a regulatory or oversight role with the project. The second meeting will seek comments to the project alternatives from county, municipal and township governmental entities. This meeting will be held in Ortonville, Michigan on the afternoon of September 20th, 2000. The following individuals representing federal, state and local agencies were invited to attend one of the scoping meetings. A scoping packet will be provided to the agencies representatives who cannot attend the scoping meetings.

Federal Agencies

Craig Czarnecki, Field Supervisor
United States Department of the Interior
Fish and Wildlife Service

Mike Madell
United States Department of the Interior
National Park Service

Shirley Mitchell, Deputy Director
Office of Strategic Environmental Analysis
United States Environmental Protection Agency, Region 5

Ronald C. Williams, State Conservationist
Natural Resources Conservation Service
Michigan State Office

State Agencies

Keith Creagh, Deputy Director
Michigan Department of Agriculture

Dennis Drake, Division Chief
Air Quality Division
Michigan Dept. of Environmental Quality

Jerry Fulcher
Land and Water Mgt. Division
Michigan Dept. of Environmental Quality

David Hamilton, Division Chief
Surface Water Quality Division
Michigan Dept. of Environmental Quality

James K. Haveman, Jr, Director
Michigan Dept. of Community Health

Jason Latham
Michigan Department of Transportation

Martha MacFarlane-Faes,
Environmental Review Coordinator
Michigan Historical Center

Pete Ostlund, District Supervisor
Shiawassee District Office
Michigan Dept. of Environmental Quality

Tom Peek
Michigan Department of Transportation

Richard A. Powers, Division Chief
Land and Water Management Division
Michigan Dept. of Environmental Quality

Doug Proper
Michigan Dept. of Transportation

Alexander Sanchez
Land and Water Mgt. Division
Michigan Dept. of Environmental Quality

Roy Schrameck, District Supervisor
Southeast Michigan District Office
Michigan Dept. of Environmental Quality

Lori Sargent
Michigan Dept. of Natural Resources

Local Agencies

Gary Ahol
Oakland County Drain Commission

Pamela Arb
Genesee Soil Conservation District

Brent Bair
Road Commission for Oakland County

Michael Brouchard, Sheriff
Oakland County Sheriff Department

Joseph Cozma
Oakland County Drain Commission

John Daly
Genesee County Road Commission

James Gerth, Sr. Engineer
Construction
Genesee County Drain Commission

Raymond Green, PhD
Goodrich School District

Ron Grimes, Supervisor
Environmental Health
Oakland County Health Department

Robert Hahn, PhD
Davidson School District

Jim Helmstetter, Director
Environmental Health
Genesee County Health Department

Carolyn Henney
Oakland County Soil Conservation District

Julie Hinterman, Principal Planner
Genesee County Planning Commission

Bart Jenniches
Brandon School District

Robert Long, Chairman
Oakland County Conservation District

Robert McArthur
Brandon Fire Chief

Tim McIssaac, Sargent
Oakland County Sheriff's Deputy

Gail A. Novak, Chief
Oakland County Emergency Management

Paul Ormiston
Independence Township Police Chief

Rich Pfaff, Sr. Engineer
Construction
Regional Review – SEMCOG

Robert Pickell, Sheriff
Genesee County Sheriff Department

Grace E. Ranger, Director
Genesee County Emergency Management

Albert Roberts, PhD
Clarkston School District

Phil Sanzica, Assistant Chief Engineer, Construction
Oakland County Drain Commission

Rich Simonson, Deputy Supt.
Oakland County Schools

Independence Township Fire Dept

Donald Welch
Atlas Township Fire Chief

Larry Wright
Davidson Township Fire Chief

The responses received from the early coordination effort will be addressed throughout the M-15 project and in the EA.

5. *Preliminary Issue Analysis*

In August the public was asked to rank nine evaluation factors. The purpose of this evaluation was to provide a basis to evaluate the illustrative alternatives and reduce the list of those options that have a better chance of addressing the needs of the M-15 corridor. Based on the public input and preliminary technical analysis data, we have categorized the following issues as potentially significant or less significant.

Potentially Significant Issues

- 1) Relocations
- 2) Wetlands
- 3) Land Use
- 4) Cultural Resources
- 5) Surface Water Impacts

Less Significant Issues

- 1) Air Quality
- 2) Threatened/Endangered Species
- 3) Noise
- 4) Farmland
- 5) Contaminated Sites
- 6) Mineral Resources
- 7) Utility Systems
- 8) Traffic Flow
- 9) Parks/Recreation Areas
- 10) Community Cohesion
- 11) Engineering Difficulty

5.1 Relocations

Estimates of households potentially displaced (relocated) by a roadway alternative are based on knowledge of the existing right-of-way and an assumption of a future right-of-way dependent on the type of roadway (alternative) being evaluated. Aerial photography will be used to count the number of structures that will be taken for each alternative. The type of structure, i.e., residence, store, etc., will be verified in the field. The number of homes and businesses that will be displaced by the project varies among the alternatives being considered. For the on-road alignments, the number of relocations is primarily a function of the right-of-way width.

5.2 Wetlands

Wetlands are protected by state and federal law because of their important ecological role. If impacts to wetlands are unavoidable, as is likely for a project of the proposed scope of M-15, there must be a demonstration that there is no practicable alternative to the impact. And, the impacts must be mitigated. Mitigation usually involves replacing wetlands at a ratio of greater than one to one. For purposes of this evaluation, National Wetland Inventory maps, produced by U.S. Fish & Wildlife Service will be reviewed, but most importantly wetlands will be delineated in the field and recorded in the GIS mapping. The GIS process allows the rapid calculation of the extent of wetlands taken by alternatives.

5.3 Land Use

Land use along M-15 in the project corridor is predominately single-family residential with lot sizes ranging from one to 2.4 acres in the east, 2.5 to 4.9 acres in the central to up to 10 acres or greater in the west. Commercial and industrial zoning on M-15 is located around Ortonville and the southern corridor boundary. Sewers do not serve most of the project area along M-15, which limits the density of development. A number of homes and businesses could be displaced depending on the alternative selected. Any direct and indirect impacts on land use in the project area and the project's consistency with local land use development plans will be discussed in detail in the EA.

5.4 Cultural Resources

The *National Register of Historic Places* is a list of resources that are identified as having significance based on a variety of criteria related to history and its interpretation. These may include objects, property, structures, and the like. They are protected by both Section 106 of the National Historic Preservation Act and Section 4(f) of the Department of Transportation Act of 1966. In this analysis, the number of National Register listed properties and/or districts potentially impacted are counted.

Later a field inventory will seek out sites that may be eligible for the Register, but have not yet been listed. Sites of local historic significance will also be plotted. Field surveys of undisturbed areas will seek undiscovered archaeological resources.

5.5 Surface Water Impacts

Rivers, streams, and lakes are especially sensitive to construction and highway runoff. A count of the number of times an alternative crosses a waterway is an indicator of impacts. The potential for erosion and sedimentation will increase during construction. Impact to surface water quality and aquatic habitat and measures to minimize or mitigate impacts will be addressed in the EA.

5.6 Air Quality

The air quality may change as a result of the alternative selected for the proposed M-15 improvements. However, it is not expected that any of the proposed alternatives will have a significant adverse effect on air quality. An air quality analysis will be performed to evaluate the alternatives. The Michigan Department of Environmental Quality's Division of Air and the U.S. EPA, Region 5 will be contacted as part of the early coordination for their comments concerning the project's effects on air quality.

5.7 Threatened/Endangered Species

Threatened and endangered species are officially protected in Michigan by both federal and state Endangered Species Acts: Public Law 93-205 and Act 203 of the Public Acts of 1974, respectively. An endangered species (E) under the acts is defined as in danger of extinction throughout all or a significant portion of its range. A threatened species (T) under the acts is likely to become an endangered species within the foreseeable future throughout all or significant portion of its range. Special concern (SC) species are not afforded legal protection under the acts but are of concern because of declining or relict populations within Michigan or are species, which more information is needed.

The Michigan Natural Features Inventory (MNFI) in the Wildlife Division of Michigan Department of Natural Resources maintains and updates the most complete database available for all of Michigan's T/E/SC species. According to the MNFI database, there are no state or federally listed T/E/SC plants within the proposed project area. The data acquired from the MNFI database are not based on current field surveys. Due to the presence of many high quality wetlands adjacent to the existing highway, a botanical survey will be conducted for the proposed alternatives.

5.8 Noise

Preliminary analysis indicates that noise levels will remain below the Federal Highway Administration's 23 Code of Federal Regulations (CFR) part 772., "Procedures for abatement of Highway Traffic Noise and Construction Noise," for both residential and commercial sites. However, depending on which alternative is selected, traffic noise may be more of an irritant to some residents due to the location of the roadway being closer to their homes. A complete noise analysis will be provided in the draft environmental assessment.

5.9 Farmland

Most of the farmland in the region has been converted to other uses, but frequently a high value may be placed on what remains by both the farm owners and the public at-large. Additionally, farmland considered as prime and/or unique, or having statewide or local significance, requires special consideration under the federal Farmland Protection Act. This law does not prohibit use of such farmlands, but does require consideration of alternatives that minimize farmland use. Finally, farmland may be enrolled in Michigan's Act 116 program, which allows deferring property taxes while the land is enrolled and requires payback if the land is removed from the program. Such land will be defined. The GIS process allows the calculation of the extent of farmland taken by alternatives.

5.10 Contaminated Sites

Contamination is not anticipated to be a significant environmental issue for the proposed highway improvement project. An Initial Site Assessment (ISA) is currently being conducted to identify potential contaminated sites within the project corridor. The ISA involves reviewing federal, state and local environmental sites lists and databases, historical land use records, and inspections and interviews of selected sites within the corridor. The historical review is necessary to identify previous land uses that might be associated with hazardous materials or environmental pollution.

The preliminary information indicates that underground storage tank (UST) sites and leaking underground storage tank (LUST) sites are the most common category of potential contaminated sites within the corridor. These sites are primarily associated with active and former gas stations. There are few industrial sites within the corridor.

5.11 Mineral Resources

Mineral resources are not anticipated to be a significant environmental issue for the proposed highway improvement project. There are no known areas within the project area that are being used for mineral extraction. Additional land use data will be collected during the environmental analysis, the results of which will be discussed in the draft environmental assessment.

5.12 Utility Systems

Several utility systems will be affected by the proposed project. Gas lines, electrical transmission lines, and telephone cables are in place. Relocation and temporary disruptions may occur during construction. Coordination with affected companies will be done in order to minimize disruption of service to customers. Impacts to these utility systems by the proposed construction will be discussed further in the EA.

5.13 Traffic Flow

Traffic projections have been made using SEMCOG's travel model. It covers a seven-county region that includes Oakland County, but not Genesee. The SEMCOG model was "extended" into Genesee County by using the zonal structure and data from the Flint area model. In August a land use workshop was conducted that will provide greater insight into growth patterns and zonal data. The "extended" model with its adjusted data will be used to project traffic volumes for the alternatives to be evaluated.

5.14 Parks/Recreation Areas

Parks, wildlife refuges and other publicly-owned and used lands are protected by Section 4(f) of the Transportation Act of 1966. This act also protects properties on or eligible for the National Register, as noted in Section 5.1.2 above. Parklands purchased through the Land and Water Conservation Fund, referred to as Section 6(f) lands, require approval by the National Park Service before conversion to other use. For both 4(f) and 6(f) properties, avoidance is the most prudent course of action.

The number of acres of parklands will be estimated by use of aerial mapping and fieldwork.

5.15 Community Cohesion

This evaluation measure focuses on how a new or reconstructed road is received by a community. Cohesion is considered to be impacted to some degree if social exchange and/or the services (e.g., fire, school transportation) now provided are likely to be affected by the proposed roadway improvement.

5.16 Engineering Difficulty

Engineering difficulty reflects the magnitude of engineering challenges an alternative may encounter. These relate to the number and extent of water crossings, railroad crossings, problem soils, wetlands, and topography.

6. *Future Procedures*

6.1 Draft Environmental Assessment

Comments from the public information meeting and from the coordinating agencies received during the scoping process will be considered in the preparation of the EA. The EA will give a detailed description of the project area, an analysis of the proposed alternatives, their impacts, and proposed mitigation.

6.2 Public Hearing

After the EA has been completed and made available to the public, a public hearing will be held to obtain citizen and local agency comments on specific aspects of the project. It is anticipated that the hearing will be held in June 2001 .

6.3 Finding No Significant Impacts (FONSI)

If no significant impacts emerges from the public hearing and/or review of the EA, then a FONSI will be sought from FHWA. The EA may be revised and updated in this process. Issuance of a FONSI serves as Location/Design Approval.